

# MONTANA TEEN DRIVER EDUCATION AND TRAINING

## Module 5.2 – Emergencies Lesson Plan & Teacher Commentary

### Long-term Learning Goals:

Students examine how to respond to vehicle malfunctions and can identify procedures for emergency evasive steering; recognize how to respond to skids resulting from low-traction conditions; and evaluate the procedures to safely return a vehicle to the roadway from an off-road driving condition.

Students are expected to describe:

- appropriate responses and prevention measures for sudden tire deflation, accelerator problems, engine,
- cooling, steering, electrical, lighting, and brake failures, and vehicle fire;
- how to respond to low-traction conditions resulting in skids;
- how to respond to conditions requiring emergency evasive steering;
- the proper response to startle;
- the good habits to safely return a vehicle to the roadway from an off-road condition.

Students will describe driver responsibilities in the event of a collision or when given directions by emergency personnel.

Students are expected to:

- state Montana's Good Samaritan Law and requirements for reporting a collision;
- describe what to do at the scene of a collision;
- identify crash severity that requires notifying law enforcement;
- describe how to respond to emergency personnel's directions;
- describe how to meet insurance reporting requirements;
- demonstrate how to complete a collision report;
- explain reduced risk strategies to compensate for extreme weather driving conditions.

**Teacher-only Resource:** Watch the Off-Road Recovery video lesson in the Module 5.2 video folder produced by Polson traffic education instructor, Harold Lair, or [click here](#) to watch online. Advanced training is recommended before implementing off-road recovery lessons. Learn more at the Montana DRIVE Workshops in Lewistown (<http://www.montanadrive.mt.gov>).

**Materials Needed:**

1. Module 5.2 PowerPoint Presentation
2. Module 5.2 Emergencies Flash Card sets students may use to quiz each other
3. Module 5.2 Fact Sheets (printed for each student)
4. Module 5.2 Teacher Commentary (printed out)
5. Paper

**TEACHER COMMENTARY**

The following teacher commentary includes questions you can ask during the presentation to engage students and have them develop key concepts related to driving emergencies.

*Some slides have embedded videos that should play automatically or on click. When the video is done, click to review bulleted summary.*

*If the videos do not play in the presentation, find them in the Videos folder and play them through Windows Media Player or another video player.*

Thumbnails of the module slides are provided to help you to connect the materials, data, and questions with the presentation.

**Slide 2: Module 5.2 Objectives**

This slide summarizes the Essential Knowledge and Skills topics for this module (see above also).

**Emergencies - Objectives**

- Understand that emergency situations occasionally arise while driving.
- Understand that each emergency situation can be dealt with effectively.
- Know what procedures to use in specific emergency situations.
- How to avoid potential emergency situations.

**Slide 3 – Vehicle Malfunction**

A quick review of Module 2.1 Preparing to Drive would reinforce this topic area. The 2.1 Fact Sheet *Alert and Warning Controls* and the Pre-Drive Checklist are relevant to avoiding and handling emergencies.

**Vehicle Malfunction:  
It happens**

- Well maintained vehicles sometimes malfunction.
- Reduce danger, repair costs, and inconvenience by:
  1. Maintaining your vehicle;
  2. Understanding the warning signs of a vehicle malfunction;
  3. Knowing how to take corrective action.
- Make sure you are always buckled up.
- Keep your hands on the wheel and eyes on the road.



### Slide 4 – Tire Blowout

Don't overload your vehicle – that is frequently the cause of a tire blowout.

The difference in friction created by the blown out tire will cause the car to pull in that direction. So, a right rear tire blowout will cause the car to pull in the direction of the blowout. Likewise a left front blow out will cause the car to pull to the left toward oncoming traffic.

The driver has a tendency to hit the brakes when there is a blow out, but in this case any rapid reduction in speed will accentuate the drag caused by the tire failure. A gradual slow-down is the best remedy for this situation.

**Tire Blowout**




- Don't brake
- Look to your target area
- Steer toward your target
- Slow down gradually
- Pull to the side of the road
- Turn on hazard lights

Maintain good tire pressure and make sure there is adequate tread on your tires.

### Slide 5 – Engine Stalls

When the “Check Engine” light goes on, it means that a system in the vehicle (examples: ignition, fuel injection, emission control) is not operating at peak performance, even if the vehicle appears to be running normally.

A glowing check engine light doesn't mean the driver must immediately pull over to the side of the road, but ignoring the warning light could severely damage engine components and incur additional repair expenses. A light that flashes indicates a more severe condition that should be checked out right away to prevent damage to the catalytic converter.

Remember that when an engine stalls that you will lose power steering and power brakes. This will require you to maintain a firm grip on the wheel and more strength from you when trying to steer and brake.

**Engine Stalls**





- Keep eyes on target area
- Maintain firm grip on wheel
- Open palm shift to neutral
- Twist key to restart motor
- When motor restarts, shift back to drive and proceed
- Pull to side of road if car doesn't restart
- Turn on hazard lights

Reasons for engine stall:

1. Lack of fuel
2. Poor maintenance
3. Water in fuel

BTW Lesson for Handling Emergencies: Instructor turns ignition key off on a practice drive. Student restarts and notes the change in power steering. Try first on straight road and later when there is a bend in the road.

### Slide 6 – Electrical Problems


Alternators generate electricity to power a vehicle's electrical system. The warning light displays a red battery symbol or ALT or GEN. When the light goes on, the electrical system is not getting power from the alternator. If the alternator does not generate enough electricity to run the vehicle, the battery will eventually be drained and stop.

**Electrical Problems**

Battery - Alternator - Starter - Fuses - Spark plugs

Electricity is needed for the ignition, vehicle lights, power steering, power windows, and all the accessories.

If the alternator does not generate enough electricity to run the vehicle, the battery will eventually be drained and stop.



## Slide 7 – Loss of Steering

When there is a power steering failure, the vehicle can still be steered with much more effort. Grip the steering wheel with both hands and steer to the side of the road to stop.

**Loss of Steering**



Suddenly and without warning something in the steering mechanism has broken or jammed.

- Loss of power steering can make it difficult to turn or it feels "loose" and "sloppy."
- Stop as quickly as possible.
- Use your flashers, flashing headlights, or blow your horn to warn others.

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## Slide 8 – Brakes Fail

1. Notice that responding to every emergency situation requires that you look and steer toward your target area.
2. Pumping brakes may help re-establish brake fluid pressure and brake operation.
3. If that doesn't work, then the driver needs to downshift. With a manual, depress the clutch and shift to the next lower gear. With an automatic, downshift from drive to 2 to L. Shifting to L too early may cause the transmission to malfunction and not slow the car.
4. Using the parking brake as a backup can be effective, but will require that the driver holds the brake release open so they don't lock up the back wheels and cause a skidding crash
5. If all else fails aim for something soft to crash into: something like a soft embankment, bush, or open field.

**Brakes Fail**



- Aim to the target area
- Control steering
- Rapidly pump the brakes
- Downshift
- Use parking brake, keep the release lever open
- Use soft crash area if necessary

A brake failure can be a complete loss of brakes or only power brake failure.

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## Slide 9 – Engine Overheats

Excess heat can destroy an engine by cracking the engine block. Monitor your vehicle's temperature, radiator, hoses and coolant level. A broken radiator hose can cause steam under the hood.

To check the coolant level, locate the hood latch at the front of the vehicle and squeeze to open the hood.

- Check the coolant reservoir tank
- Don't open the radiator cap if the engine is hot.
- Add coolant if you have some or water to the reservoir's full level
- If replacing coolant does not fix the problem, take the vehicle to a mechanic.

**Engine Overheats**

Excess heat can destroy an engine

- Monitor your vehicle's temperature, radiator hoses and coolant level
- STOP THE VEHICLE when the warning light comes on or the gauge shows a hot temperature

Cool the engine:

- Let the engine idle
- Turn the heater and blower to high to help pull heat from the engine
- Turn the ignition off and open the hood
- Add coolant




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### Slide 10 – Engine Fire

1. If your car is on fire keep it away from flammable materials. You can start a forest fire if your car is on fire and you pull off the road into dry brush or grass.
2. Fires happen for many reasons. Make sure that when you are out of traffic and safely stopped, turn off the engine. The electric fuel pumps often continue to pump fuel onto the fire and make the situation worse. Turning off the ignition will shut the fuel pump off.
3. Get yourself and everyone else out of the car as quickly and safely as possible. Check to make sure everyone is out of the vehicle and assist those who need help, such as kids in car seats and elderly passengers.
4. Walk away from the car and let it go. Lifting the hood only provides oxygen for the fire and compounds the situation quickly. You need to contain the fire, not spread it.
5. Call 911 and stay away from the car. While most cars don't explode like you see in the movies, a gasoline fire burns hot and your tires may blow up sending burning rubber and debris toward you.



### Slide 11 – Stuck Accelerator

Carpets and floor mats can cause accelerators to stick in a down position, keeping the car accelerating and revving the engine or increasing in speed. Keep your accelerator free of interference from loose carpets, mats or other objects.

Follow the actions on the slide. You can also try to unstick the pedal by pulling up under the accelerator pedal with your foot.

Shifting to neutral will cause the engine to race but will still give you power steering and power brakes. It may ruin the engine but it will allow you to pull off the road, stop the engine and then shut the engine off.



### Slide 12 – Malfunctioning head and tail lights

Identify problem lights by checking all vehicle lighting on a monthly basis, including the headlights, turn signals, brake lights, side lights, parking lights, taillights, backup lights and license plate lights.





### Slide 13 – Submerged in Water

Quick action and an emergency kit will come in handy if you find your vehicle starting to sink in a body of water. You might need to smash the window with a hammer or cut the seat belt to exit the vehicle. See Slide 24 for a list of items to keep in your emergency kit.

As little as six inches of fast moving water can knock you off your feet. Fast moving water two feet deep can wash away a vehicle.

**Submerged in Water**



- Act quickly. If possible, open door and exit.
- Smash the window.
- Keep your safety belt on.
- Let car fill with water and pressure equalize.
- Exit the vehicle.

Refer to the Emergency Kit for items that can help you escape a submerged vehicle.

### Slide 14 – Head-on Evasion

The three steering actions are hard right, back left and then back right center to straighten vehicle.

**Head-on Evasion**



- Keep calm.
- Aim through open escape path to the target area.
- Keep off the pedals.
- Three steering actions.
- Use controlled braking.

Anything that startles you by blocking your path (wildlife, road debris, oncoming vehicle) may be averted if you see it.

### Slide 15 – Off-Road Recovery

Drifting off the road is often caused by fatigue or inattention. When a vehicle leaves the road, it can be tripped by soft surfaces, or roadway objects. Panic causes drivers startled by rumble strips and road departures to over-steer across the road. Drive along the road edge and slow. Hit the mile post markers and reflectors if you need to as you slow down and prepare to stop or steer back into your lane. Consider options and strategies as you scan the side of the roads you drive.

Rollovers are more likely to occur on rural roads and highways, particularly undivided, two-way roads or divided roads with no barriers and 70 mph speeds. Overcorrecting can be deadly.

#### RECOVERING SAFELY:

- Remove foot from throttle and avoid braking – “When in doubt-both feet out “
- Check slope of the shoulder and stop safely when possible.
- Reduce speed to about 10 mph without using the brakes.
- Balance and move the vehicle so that it straddles the roadway edge.

**Off-Road Recovery**



1. Aim to the target area.
2. Control steering, don't panic and steer too much.
3. Ease off accelerator, reduce your speed according to conditions.
4. Align edge line of roadway to middle of car.
5. Check the slope of the shoulder.
6. Check traffic to front and rear when slope allows a return to the roadway.

Watch the Off-Road Recovery video lesson in the Module 5.2 video folder. Advanced training is recommended before implementing off-road recovery lessons. Learn more at the Montana DRIVE Summer Workshops in Lewistown.



- If necessary, brake lightly, check traffic.
- Signal to return to the roadway.
- Select a level location for returning to the road.
- With hands at 9 and 3 o'clock, turn the wheel no more than 1/8 -1/4 turn back onto the road.
- Counter steer back into lane 1/2 turn - counter steering is double the first turn to counter balance the vehicle weight shift
- Look to the target and return to lane position one, check rear zone, cancel signal

## Slide 16 – Skids and Traction Loss

Avoid traction loss by:

- Controlling acceleration
- Reducing speed
- Reducing engine power

Actions when traction loss occurs:

- Going downhill, shift to a lower gear
- Avoid over-acceleration on slippery surfaces
- Reduce speed
- Reduce steering input
- Trail braking if needed



## Slide 17 – If you hear a siren ...

Move over Law (MCA 61-8-346) is also covered in Module 3.3 - Mixing With Traffic.

Class discussion: Why is it a good idea to move over to the next lane when you see a stopped emergency vehicle ahead? Remember in terms of the Vehicle Control Sequence of seeing the need to move, checking the other lanes to make sure I have enough time and space to move over, and then executing the lane change in a safe and timely manner.

Remember S-I-R-E-N to know how to yield the right of way to emergency vehicles:

**S** Stay alert — keep the noise level down in the vehicle and look for more than one emergency vehicle approaching when a siren is heard.

**I** Investigate — check the rearview mirror, scan around the car, try to estimate the closing speed of the emergency vehicle to plan the next move.

**R** React — quickly and calmly scan in all directions, use the turn signal and exit the roadway without slamming on the brakes or pulling over suddenly.



<p><b>E     <u>Enter</u></b> — before reentering, scan in all directions; signal and gradually merge.</p> <p><b>N     <u>Never</u></b> — stop where there isn't enough room to pull over safely and never follow or try to outrun an emergency vehicle</p>	
<p><b>Slide 18 – At the scene of a crash ...</b></p> <p>What do you do?</p>	<p><b>At the scene of a crash ...</b></p> <p><b>What do you do?</b></p> <ul style="list-style-type: none"> <li>• If you are involved, <b>stop immediately</b>, regardless of how little damage appears.</li> <li>• Call 9-1-1 for medical assistance if anyone is injured.</li> <li>• Do not move an injured person unless there is danger of fire or another collision.</li> <li>• Ensure all vehicles in the collision have engines turned off.</li> <li>• Set out reflectors to warn oncoming traffic.</li> </ul>
<p><b>Slide 19 – Montana's Good Samaritan Law</b></p> <p>Don't hesitate to stop and assist others involved in a crash if you are concerned about liability. This law protects your good intentions.</p> <p>(MCA 27-1-714) Limits on liability for emergency care rendered at scene of accident or emergency.</p>	<p><b>Montana's Good Samaritan Law...</b></p> <ul style="list-style-type: none"> <li>• This law helps protect rescuers who voluntarily help a victim in distress from being successfully sued in court (i.e., for wrongdoing).</li> <li>• The law is designed to encourage people to help a stranger who needs assistance by reducing or eliminating the fear that, if they do so, they will suffer possible legal repercussions in the event that they inadvertently make a mistake in helping the victim.</li> </ul>
<p><b>Slide 20 – If you are involved in a crash ...</b></p> <p>Gather as much information about the collision as possible. This can help prevent disagreement concerning how the crash actually happened.</p> <ul style="list-style-type: none"> <li>• Time of day.</li> <li>• Weather conditions.</li> <li>• Road conditions.</li> <li>• Street lighting or lack of lighting.</li> <li>• Presence or length of skid marks.</li> <li>• Get the names and addresses of any witnesses.</li> <li>• Record the speed the vehicle was traveling.</li> <li>• Draw a diagram of the location, include street names and locations of the vehicles, crosswalks, traffic lights and stop signs.</li> </ul>	<p><b>If you're involved in a crash ...</b></p> <ul style="list-style-type: none"> <li>• Exchange names, addresses, telephone numbers, and insurance company contact information.</li> <li>• Document the characteristics of the crash. Take photos.</li> <li>• If a vehicle is hit while parked and the owner is not present, the driver of the vehicle is legally obliged to leave a note with contact details on the windshield.</li> </ul> <p><b>See the <i>Collision Information Form</i> work sheet for a student take-home assignment.</b></p>



## Slide 21 – Call the police when ...

When a collision occurs, gathering as much information as possible may prevent problems resulting in a lawsuit.

A Montana crash report must be filed:

- If a driver is involved in a crash where damage totals over \$1,000.00, or someone is hurt or killed
- Every driver must fill out a written report to the Highway Patrol within 10 days of the crash
- The form can be obtained from any police, sheriff or patrol officer
- Failure to report the crash could cause a driver's license to be suspended
- 

Montana law (MCA 61-7-108) requires the driver of a vehicle to immediately contact the local police department within the municipality the collision occurred, the county sheriff or nearest highway patrol office if there was an injury of death or property damage of at least \$1000.



## Slide 22 – Insurance Reporting Laws

Montana liability coverage is required of all drivers. The coverage must be 25/50/10:

- \$25,000 per person for injuries you cause to the other party,
- up to \$50,000 for all,
- and \$10,000 for any damage that you cause to the other driver's car and/or property.



## Slide 23 – If you are pulled over ...

**Note:** The TE Resources video folder includes two short Traffic Stop clips. The clips can generate discussion about traffic stops and what a driver should do if he/she gets pulled over and wants to avoid a conflict with the officer.

- If you see flashing lights and/or hear a siren behind you, immediately drive to a position parallel to, and as close as possible to, the nearest edge or curb of the roadway, clear of any intersection.
- Stay in the vehicle, and keep both hands on the steering wheel where they can be seen by the officer.



- Do not start looking for any documents until after the officer asks for them.
- The officer will probably ask the driver to roll down the window or may direct the driver to a different location.
- All current vehicle registration, insurance, and driver's license information should be within easy reach.
- Drivers can be cited for not having a valid driver's license, insurance or registration when requested

### Slide 24 – Always be prepared ...

An emergency requires quick action. Be prepared with a complete emergency kit.

Place in the glove compartment:

- The names, addresses, and telephone number of someone to call in an emergency
- Spare fuses for the electrical system
- A good flashlight with reliable batteries
- An ice scraper for winter driving
- A pocketknife

Keep in the trunk:

- Battery jumper cables
- Spare tire (properly inflated)
- Can of tire sealant
- Fire extinguisher
- First aid kit
- Jack and lug wrench for changing tires
- Flares or reflective day/night devices
- Blanket
- Dried nonperishable food
- An empty can to carry gasoline (if the vehicle runs out of gas) and
- a plastic jug of water (if the engine's radiator boils over and coolant is lost)

Never carry gas in the trunk - it is dangerous, and illegal in some places



See the *Emergency Kit Work Sheet* for a student activity.

## Slides 25-26 – Standards and Benchmarks

**Standards and Benchmarks 1-8: This is for your reference and not to be read to the class verbatim. Please review prior to the lesson so you are aware of what the student will be required to know at the end of the module.**



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